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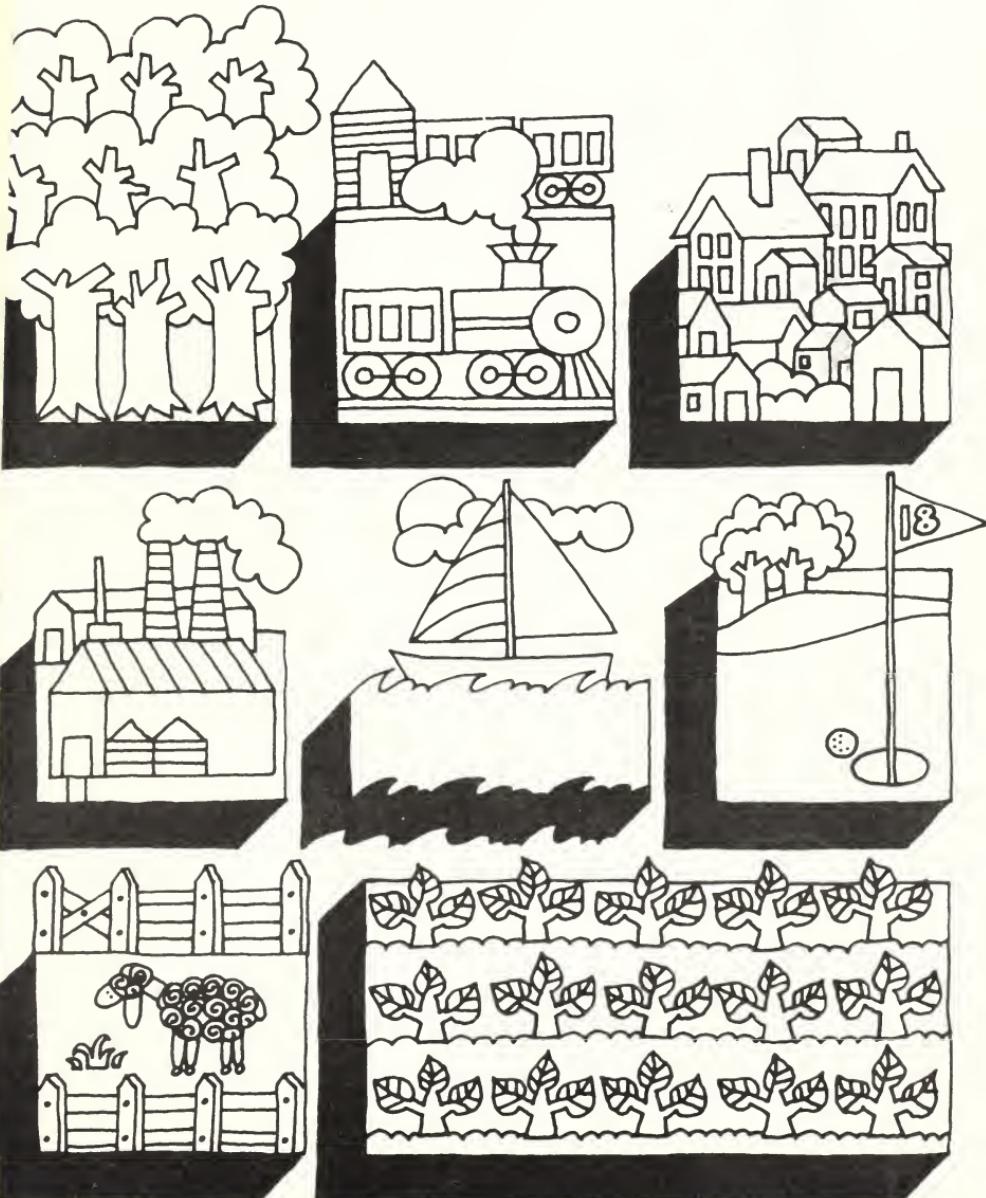
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agricultural situation

THE CROP REPORTERS MAGAZINE

U.S. DEPARTMENT OF AGRICULTURE • CROP REPORTING BOARD

ENOUGH LAND LEFT FOR CROPS?



ENOUGH LAND LEFT FOR CROPS?

With set-aside programs back in the farm policy arena, it's easy to assume the United States has all the cropland it really needs.

But are there enough acres out there to stand up under increasing world demand for food and fiber?

This concern prompted USDA's Soil Conservation Service (SCS) to launch a nationwide survey of potential cropland in May 1975. While preliminary results were announced the following year, SCS has recently issued a full report of its findings.

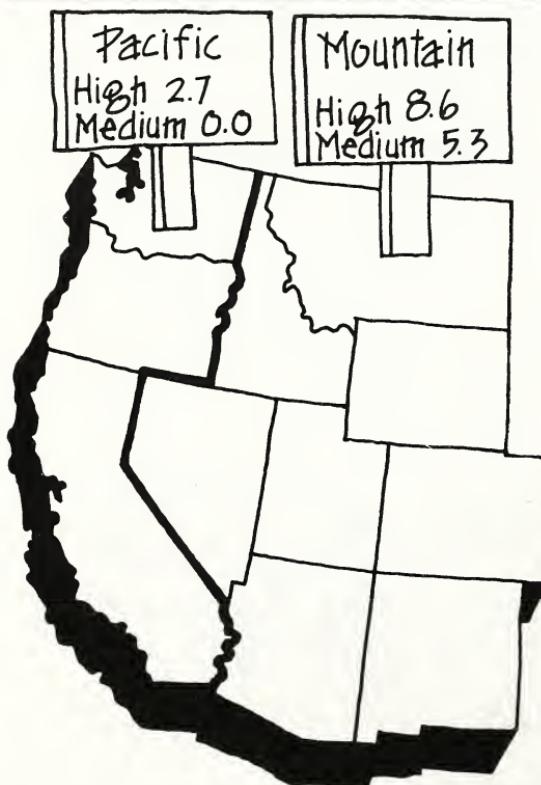
The study spanned 41,000 sites in 506 randomly selected counties. Limited to nonfederal land, the sites were located in all 50 States, Puerto Rico, and the Virgin Islands. Here

are a few of the major changes that occurred since the previous crop-land inventory in 1967...

Urbanization and other build-up—such as golf courses, industrial sites, and cemeteries—claimed 17 million acres of rural land. Another 7 million acres had been covered by water in ponds, lakes, and reservoirs.

Roughly 8 million acres lost to urban and other uses had been prime farmland.

Total cropland slipped from 431 to 400 million acres. Declines hit all production regions except the Delta States, which gained just over a million acres, and the Mountain States, where no major changes occurred.



Where there's potential cropland. Signs show numbers of acres (in millions) with high and medium potential for conversion.

Shifts in land use brought an overall improvement in cropland quality. In 1975, about 344 million of the 400 million acres stood in land capability classes I-III. Soils in classes I and II are those best suited to efficient farm production while requiring little or no conservation practices. Class III soils also make good cropland, but need special conservation methods.

This marked a 3-percent gain from the previous survey, while land labeled least productive shrank from 5 to only 4 percent of the total. Nonetheless, U.S. producers lost nearly 14 million acres of class I-III cropland to other uses.

What does this leave to draw on?

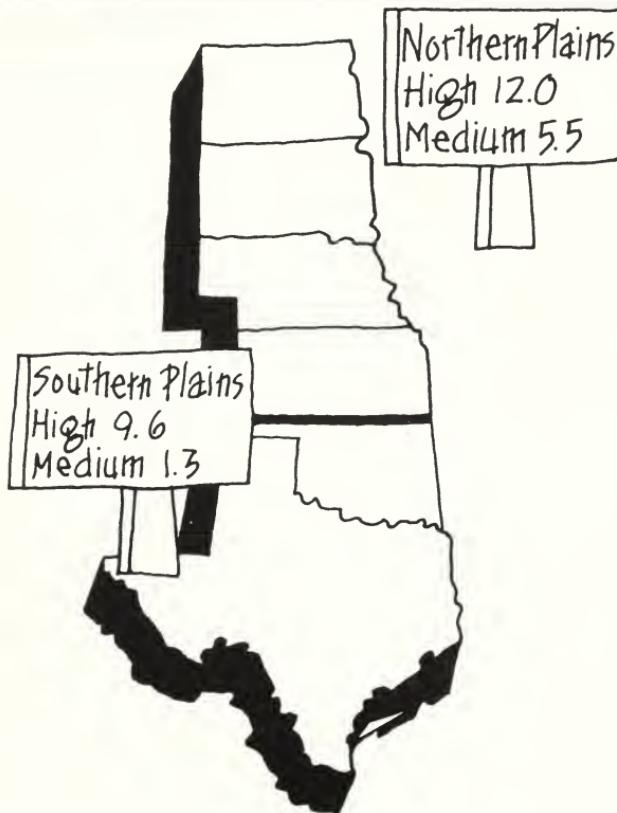
Survey findings indicate that of

the nearly 1 billion acres of non-cropland in the United States, only about 111 million show high or medium potential for conversion to crop production—down from an estimated 266 million in 1967.

Most new acreage could be converted from land now in pasture and range, but land currently in forests and other uses would yield only minor amounts.

Of the 111 million acres available for cropping, over 78 million have high potential for conversion. But of these, only about 35 million could be brought into production by simply tilling the soil.

The remaining 43 million “high-potential” acres have one or more problems—such as wind and water



erosion—that farmers would have to contend with before planting.

Another 33 million show medium potential for conversion—meaning they would require heavy investments in soil-conserving practices before becoming efficient production units.

The remaining 905 million acres in the total noncropland base claim only a minimal chance of ever becoming productive farmland. Generally, this land is irreversibly committed to nonfarm uses, has severe erosion problems, or supports high density forests.

Roughly 180 million acres of this low-potential land would make excellent cropland. But factors such as the relative size of individual plots

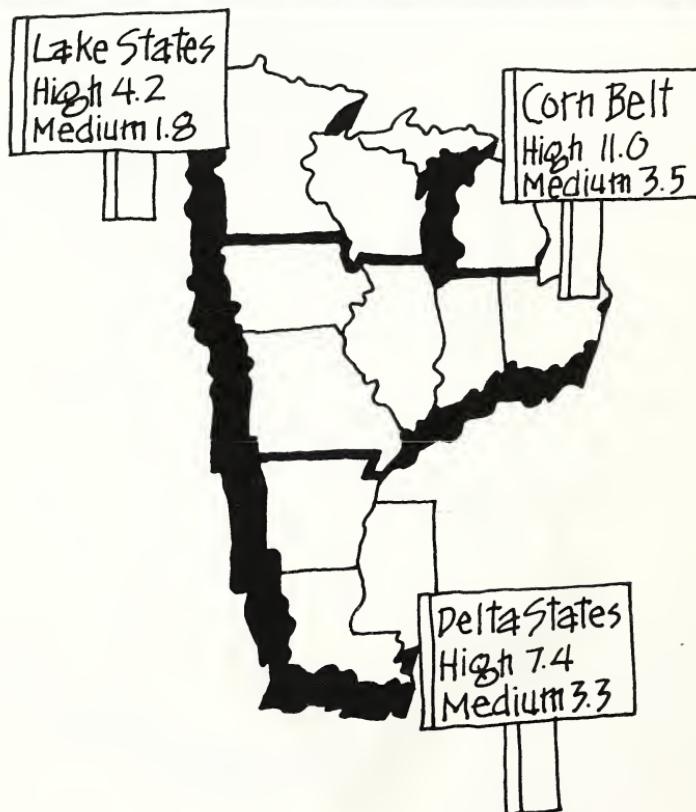
and their distance from other farming units make conversion highly impractical.

Within individual production regions, opportunities to develop new crop acreage—without investing heavily in land improvements—are already limited.

The Corn Belt and Southeast regions appear to have the most options. The Delta States converted a big share of their reserve land into crops between 1967 and 1975. Most of that land had been in forests.

Pressure on existing crop acreage will be greatest in the Northeast, Pacific, and Lake States regions, where available land is limited and shifting rapidly to other uses.

Because the Nation's cropland



inventory contains a bigger share of high quality land, experts believe that damage to soils caused by cropping marginal lands will decline. The study also identifies about 5 million acres of marginal or worse land that should be retired from cropping.

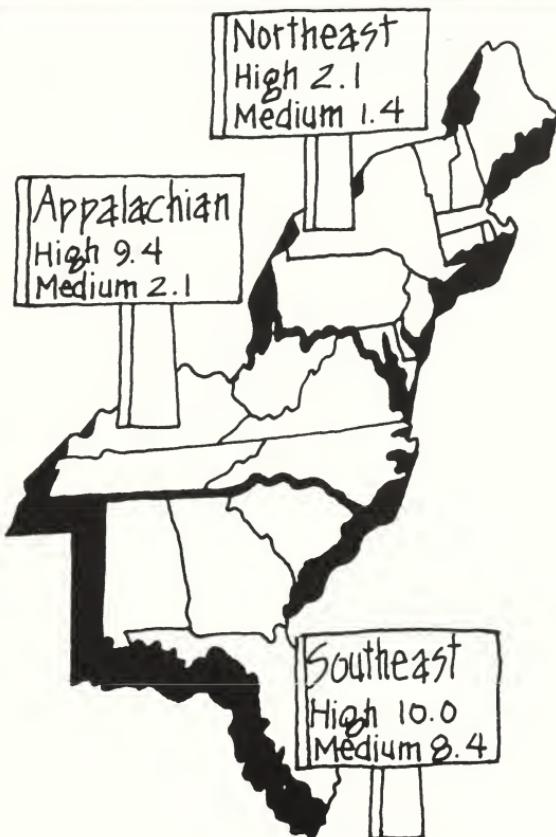
As for fears that future water storage needs will infringe on prime cropland, SCS found that marginal land or land not suited for production accounted for more than half the acreage put under water between 1967 and 1975. This indicates that water development shouldn't pose a threat in the future, if sites are carefully selected.

But why, in the 150 to 200 years of cropland development, hasn't all the

suitable acreage been converted to cropland?

Basically, it's because ownership, size, location, and commitment to other uses set the pace of conversion. For instance, more than 24 million acres are currently earmarked for urban development and other build-up.

At least half that acreage boasts good cropping qualities, but since it's isolated by urban expansion, zoned for development, or not economically feasible to crop, it remains underused. Still, the experts report there's enough potential cropland to meet needs during the next couple of decades—if existing high-quality cropland is not shifted to other irreversible uses.



A CLOSE-UP ON CROP REPORTS

Are crop reports consistently too high, thereby working against farm prices? A look at the past growing season offers evidence to the contrary.

Final production figures for corn, cotton, wheat, and soybeans released by the Crop Reporting Board on Jan. 16, 1978, showed that original forecasts for three of the four crops had been lower than actual output.

That, of course, doesn't tell the whole story. Monthly production forecasts for the four crops reflect crop development and yield prospects as they appear at the start of the month, based on information supplied by farmers and on in-the-field checks by specially trained enumerators.

Changes in the forecasts from one month to the next result from changes in growing conditions caused by factors that normally can't be anticipated, such as insect damage and drought, which lower prospects, or badly needed rains that sharply improve the outlook.

Production forecasts for the four crops during the 1977 season reflect these kinds of changes, revealing differing patterns of development, as shown in the table below.

Here, briefly, is what influenced

those forecasts...

Corn. Generally dry conditions during July prompted the August forecast to drop 4 percent from the previous month.

But mid-August rains brought needed moisture to the Corn Belt and Great Plains, lifting the September forecast to 6,227 million bushels. Good growing conditions in most areas except the drought-stricken Southeast prompted higher forecasts again in October and November.

Cotton. Field indications at the start of September pointed to a slightly smaller crop than originally forecast the month before. By November, however, favorable weather and an early maturing crop significantly raised yield prospects in Texas and Oklahoma, which together produce the biggest share of the total U.S. crop.

Texas and Oklahoma continued to experience good weather into December, pushing yields to record and near-record levels. Improved conditions in the Delta States also helped boost the December forecast to 14.4 million bales.

Wheat. Mid-August brought cool, damp weather to northern wheat areas, delaying combining and

FORECASTS AND FINAL ESTIMATES FOR 1977

Forecast	Corn	Cotton	Wheat	Soybeans
	Million bushels	Million bales	Million bushels	Million bushels
July 12	6,331	(¹)	2,044	(¹)
August 11	6,092	13.5	2,041	1,602
September 12	6,229	13.2	2,030	1,644
October 12	6,303	13.3	2,027	1,647
November 10	6,367	13.8	(¹)	1,683
December 9	(¹)	14.4	2,026	(¹)
January 16	6,357	14.5	2,025	1,716

¹No forecast

lowering yield prospects to the point where the Crop Reporting Board dropped the September all spring heat forecast by almost 14 million bushels from the month before.

Persistent moisture problems, particularly in North Dakota, slowed harvesting of spring-planted wheat throughout September. Wet conditions proved beneficial, however, in the rain-starved Pacific Northwest, yielding bigger harvests than previously expected in that area. The upshot: only a slight drop in the October forecast for all wheat to 2,027 million bushels.

Soybeans. Of the four crops, soybeans benefited most from late summer rains. Field observations at the start of each month revealed rapid crop development and steadily increasing yield prospects in major producing areas, raising production forecasts by 3 percent in September and 2 percent in November.

COMPETITION AGAIN FROM ARGENTINA

As a grain supplier, Argentina may be down but far from out.

Since the 1960's, its share of world wheat exports has averaged only 4 percent—compared with 30 percent before World War II. The country has also supplied only 10 percent of world trade in coarse grains over the past 5 years.

Last year, Argentina showed the world it has the potential to climb back into the grain market in a big way. Within just a few months, the country converted a large wheat surplus into sizable export earnings.

Total Argentine grain exports for 1976/77 shot up over 40 percent to an estimated 15.1 million metric tons.

To a large extent, Argentina's comeback can be traced to internal policy changes. A military coup in March 1976 ended a state-

dominated economy that had long hampered agricultural growth. Among major changes was the removal of a 50-percent tax on wheat exports.

Farmers responded to the new policies by planting substantially larger grain and oilseed crops. Wheat area alone rose 25 percent over the previous year. The economic incentives, coupled with highly favorable weather, resulted in a record grain crop of 28 million metric tons.

Removal of the wheat export tax helped assure the sale of most of the country's excess supply, since Argentine exporters could tender lower bids to foreign buyers while offering higher prices to producers. In early 1977, Argentine wheat sold for roughly \$90 a ton, versus around \$110 for U.S. wheat.

Argentina not only bounced back strongly in traditional grain markets, but opened and reopened other markets. After several years, it again traded in East Europe, Belgium, Portugal, and Spain. Iraq became the newest customer.

While quantities shipped to the various areas may be small compared with U.S. exports, they represent a diversification that could lead to expanded trade in the future. Argentine grains may also cut into traditional U.S. markets because of their relatively low price.

Will the pace continue? Low world grain prices, drought conditions, and the shifting of land into more profitable oilseed production will result in a smaller grain harvest—and therefore a reduced export volume—in 1977/78.

Nonetheless, the government's new agricultural policies are expected to continue providing incentives to Argentine producers and traders. Because of these changes, the United States and other grain exporters can expect continued competition from Argentina.

SURVEYSCOPE

To give our readers a clearer picture of the vast scope of ESCS activities, Agricultural Situation presents a series of articles on special surveys undertaken in various States. While these are not national surveys, they are important to the agriculture in individual States.

"Our experience with the raisin grape crop last August provides a good example of how unforeseen developments can alter an early season crop forecast," says Robert McGregor, California agricultural statistician.

On August 10, McGregor's office forecast the State's grape crop at 4.15 million tons, including 2.1 million tons of raisin variety grapes, 1.6 million of wine types, and 450,000 tons of table varieties.

"Our raisin-type figure," reports McGregor, "drew some fire from industry spokesmen who felt the estimate was too high and encouraged

our people to go back into the vineyards for another look."

During the last week of August, field enumerators returned to all Thompson raisin grape blocks that had been used earlier in the agency's regular objective measurement survey. That work involves visiting a sample of California vineyards for bunch counts, weights, measurements, and other yield indications.

The special late August project revealed that original vineyard counts and measurements were correct, but that the grapes were not filling as expected. Recognizing the impact this



Bunch counts and measurements made in selected California vineyards yield data for...

would have on the crop's total weight, McGregor's office revised its earlier forecast of 2.1 million tons of raisin grapes down to 1.95 million.

Final production figures issued several months later on January 13 upheld this estimate, showing 3.938 million tons of California grapes, including 1.907 million tons of raisin varieties, 1.576 million of wine types, and 455,000 of table varieties.

"Our grape forecasts are based on information provided by growers and supplemented by highly scientific counts and measurements in a sample of vineyards stretching from Sonoma to Kern County," explains McGregor.

At the selected sample vineyard enumerators locate the random rows and vine spaces as shown on the vineyard map. Sample units are three vine spaces wide. The unit may or may not turn up in a good area of the vineyard, but overall this is what gives the program its "objectivity" and leads to reliable data about the total crop.

The enumerator counts all bunches

in the sample, clipping some for further examination. These bunches are carefully weighed, measured, and the sound berries are counted. The procedure is repeated for each of the 1,000 sample grape units in the program. Data gathered in this manner can accurately point to yield per acre and total production.

Producer cooperation is the key to success of the objective measurement survey. No vineyard is entered without the producer's permission. All information supplied by growers or collected in vineyards is confidential and used only in summary from other vineyards to indicate State yields and production.

Over the past decade, indications from objective yield surveys have closely approached final output figures. On average, the August forecast has come within 3.5 percent of the final production level for all grapes; within 5.1 percent for raisin grapes; 7 percent for table varieties; and 4.9 percent for wine grapes.



...forecasting the State's crop of wine-type grapes, table varieties, and raisin grapes.



COMMODITY OUTLOOK

FOR FARMERS

If you're a typical farmer, you face a lot of important decisions. And, like any good manager, you want to examine the facts and explore all the options before committing yourself. USDA has launched a series of newsletters to help you do just that. We'll send the letters, free of charge, to any producer who fills out the form below and returns it to us.

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PARITY PRICES: WHERE THEY COME FROM...

For an individual farmer, whether a bushel of soybeans sells for 80 cents or \$8 isn't that important—by itself.

What matters, of course, is what those soybeans will "buy" in the way of food, clothing, fertilizer, machinery, and all the other needs of a farm family.

That's why Congress established parity prices in 1933. Under law, parity became the price at which a commodity has the same purchasing power as it had during 1910-14, a time when the price relationships between farm products and purchased goods and services were reasonably well balanced.

Over the years, parity prices have remained the yardstick for measuring how close prices received by farmers are to the price that Congress defined as a fair goal. The highly complex task of assembling, computing, and publishing these price relationships falls on the Crop Reporting Board.

Each month, the Board determines average prices farmers ac-

tually receive nationwide for some 80 crop and livestock commodities. Prices for roughly 80 additional products are determined on an annual or seasonal basis.

The bulk of this information comes from 4,500 voluntary reporters who include farmers and local buyers, such as operators of grain elevators and feedlots, processors, cooperatives, and others involved in buying and selling raw farm products.

Individual State field offices collect and summarize the data, and forward it to Washington, D.C., where statisticians set the final U.S. averages and compute the Indexes of Prices Received by Farmers using 1910-14 and 1967 as base periods. The prices relate to the average of all classes and grades of commodities sold, and are not computed for specific markets or grades.

The prices that farmers pay for goods and services form the other basic component needed to calculate parity prices. The Crop Reporting Board determines—on a regular basis—the average prices paid by farmers for roughly 250 production items, ranging from feeder livestock and seed to tractors and building and fencing materials.

These data, gathered primarily through mail surveys of local merchants, are processed in a similar manner as the estimates of prices received by farmers.

What farmers pay for production items, however, doesn't tell the whole story of producer outlays for farming and maintaining a household. The Crop Reporting Board combines these prices with four other groups of prices facing farmers—consumer expenses (food, clothing, housing, medical bills, etc.), interest on farm real estate debt, taxes, and wages paid for farm labor. The five series make up the Parity Index, more formally known as the Index of Prices Paid by Farmers for Commodities and Ser-

vices, Including Interest, Taxes, and Wage Rates.

The Index of Prices Received by Farmers divided by the Parity Index yields the Parity Ratio—a basic measurement of the per unit purchasing power of farm commodities generally in terms of goods and services bought by farmers, in relation to the purchasing power of farm products in the 1910-14 base period.

Thus a Parity Ratio of less than 100 indicates that the average per unit purchasing power of *all* farm products is lower than in 1910-14.

Currently, the Crop Reporting Board publishes parity prices for 144 agricultural commodities. Parity prices for principal farm products appear monthly in the Agricultural Prices report, and a complete listing is made in the January and July reports.

The monthly reports also indicate current farm prices as a percent of the parity price for major commodities. In December 1977, for example, hog prices averaged \$41.50 per hundredweight, versus a parity price of \$55.70. Producers were therefore selling their hogs at 75 percent of parity.

These complex series of prices, indexes, ratios, and percentages that appear in Agricultural Prices have as their starting point the basic month-to-month price information supplied by buyers and sellers of farm products.

To help them and other data users better understand reported price relationships and the concept of parity, Agricultural Prices periodically contains a detailed explanation of how parity prices are computed, and defines the individual components that go into these calculations.

For a copy of the explanation of parity prices and the Parity Ratio that appears in Agricultural Prices, write the Editor, Agricultural Situation, ESCS, Room 5855 South, Washington, D.C. 20250.

...HOW THEY'RE FIGURED

Calculating parity prices is a simple procedure, assuming you have the required price series and index numbers at your fingertips. Here's how it works, using the computation of the December 1977 parity price for corn as an example...

Step No. 1: Find the adjusted base price.

Divide \$1.81, the average monthly price for corn during the previous 10 years (January 1967 to December 1976), by the average Index of Prices Received by Farmers for all commodities during the same 120-month period. This was 360 percent of the 1910-14 base period.

$$\$1.81 \div 3.60 = \$0.503$$

Step No. 2: Compute the parity price.

Multiply the adjusted base price (\$0.503) by the Parity Index based on prices paid by farmers in December 1977. This equaled 689 percent of the base period.

$$\$0.503 \times 6.89 = \$3.47$$

By applying the same procedure to monthly average prices for the following commodities, statisticians computed these parity prices for December 1977...

	Average price as percent of parity price	-dollars-	-percent-
Wheat (bu.)	5.05	49	
Corn (bu.)	3.47	57	
Grain			
sorghum (bu.)	5.80	54	
Soybeans (bu.)	7.65	74	
Hogs (cwt.)	55.70	75	
Beef			
cattle (cwt.)	58.60	61	
Lambs (cwt.)	62.20	90	
Eggs (doz.)	.81	57	
Milk (cwt.)	13.00	75	
Oranges (box)	3.33	111	

Briefings

RECENT REPORTS BY USDA OF ECONOMIC, MARKETING, AND RESEARCH DEVELOPMENTS AFFECTING FARMERS.

CHINA TRADE SHOWS MODEST GAIN. . . . Agricultural exports to the People's Republic of China (PRC) are picking up, but remain well below 1974's record sales of \$664 million. Receipts totaled only \$44,000 in 1976, but during 1977, about \$60 million in agricultural products were dispatched to the PRC, bolstered mainly by shipments of soybeans, soybean oil, and cotton. Contracts for over \$50 million in cotton are still outstanding, and further sales of soybean oil are possible. Currently, USDA economists foresee no dramatic rise in agricultural trade between the two countries. Even though the PRC has stepped up purchases of farm goods from other nations during the past year, the U.S. will probably continue its role as a residual supplier.

HAVE A HAM AND CHEESE ON OKRA. . . . The food grain family may be joined by a new member. Okra seed, which contains 25% protein and 15% oil, is under study as a new tropical grain crop. Its potential as a source of enrichment to wheat flour and as a year-round crop in both dry and wet regions has prompted USDA's Science and Education Administration (SEA) to provide \$15,000 for a 1-year study under a cooperative agreement with the University of Puerto Rico. Scientists will determine the most productive varieties of okra, their resistance to disease and insects, and the best ways to produce them.

. . . AND PEA BISCUITS ON THE SIDE. . . . The dried pea may find a new home in U.S. bakeries. Grown primarily as an export because of a small domestic market, this vegetable could join okra in the sandwich of the future. SEA researchers are looking to pea flour as another protein-rich ingredient for bread. Besides protein, pea flour would add important fibers and carbohydrates and less fat to a product that Americans consume at a rate of 50 million pounds a day. Fortifying bread with 15% pea flour would not affect taste and color, baking quality, or production costs. It could also help wheat producers in the Pacific Northwest, where 90% of the Nation's dried peas are grown. Planting wheat in pea stubble provides excellent control over the erosion problems that have traditionally plagued the area's wheat fields. Until now, a wheat-pea crop rotation system has been limited by the small U.S. market for dried peas.

ACREAGE FORECAST. . . As of January 1, farmers intended to plant 224.8 million acres to a dozen major crops in 1978. That's 1.5 million acres more than was seeded to these crops last year. Growers were surveyed in 34 States which accounted for more than 98% of the 1977 planted acreage. The crop tallies—for the 34 States—read like this:

Crop	1978 January	1977	1978 as a
	Intentions	Plantings	% of 1977
	<i>Thousand acres</i>	<i>Thousand acres</i>	<i>Percent</i>
Corn	79,295	81,011	98
Sorghum	17,236	16,706	103
Oats	17,370	17,585	99
Barley	10,125	10,152	100
Durum wheat	4,172	3,179	131
Other spring wheat	13,674	15,576	88
Soybeans	63,087	58,331	108
Upland cotton	12,516	13,501	93
Rice	2,482	2,261	110
Flaxseed	1,275	1,510	84
Sugarbeets	1,269	1,214	105
Sunflower seed	2,345	2,305	102

LESS CORN FOR POPPING. . . Popcorn growers saw their crop decline sharply in 1977. Output dipped nearly 200 million pounds from the year-earlier record to 409 million pounds. The 33% decline spanned all producing States, with downturns ranging from 71% in Missouri to 21% in Indiana. Yield was off 239 pounds to 2,686 pounds per acre. Although weather held up well during planting, early drought conditions hurt yields in the South, and excessive wetness in some areas hampered harvest operations. Nebraska remained the largest producer, with Indiana again the only other State turning out more than 100 million pounds.

FEWER SHEEP AND LAMBS ON FEED. . . An estimated 1.6 million sheep and lambs were fattening for slaughter in 26 States as the year began. That was 7% below 1977 and 14% lower than 2 years ago. Over 1 million of those sheep and lambs were on feed in the 7 major feeding States; almost half were placed there during the final 2 months of 1977. Colorado registered the only increase among the 7 States, and maintained its leading status with 360,000 head in feedlots. California captured the second spot with 200,000 head and Texas, at 150,000, finished third.

Statistical Barometer

Item	1975	1976	1977—latest available data
Farm Food Market Basket:			
Retail cost (1967=100)	174	175	182
Farm value (1967=100)	187	179	181
Farmer's share of retail cost (percent)	42	40	39
Agricultural Trade:			
Agricultural exports (\$bil.)	22	23	2.3
Agricultural imports (\$bil.)	10	11	1.3
Farm Income:			
Volume of farm marketings (1967=100)	113	121	139
Cash receipts from farm marketings (\$bil.)	89.6	94.8	88.5
Realized gross farm income (\$bil.)	98.2	104.2	98.7
Production expenses (\$bil.)	75.5	80.9	82.5
Realized net farm income (\$bil.)	22.7	23.3	16.2
Farm Production and Efficiency:			
Farm output, total (1967=100)	114	117	121
Livestock (1967=100) ³	101	105	108
Meat animals (1967=100)	102	106	108
Dairy products (1967=100)	98	103	105
Poultry and eggs (1967=100)	103	110	111
Crops (1967=100) ⁴	121	121	129
Feed grains (1967=100)	114	120	124
Hay and forage (1967=100)	108	102	108
Food grains (1967=100)	142	140	131
Sugar crops (1967=100)	131	130	117
Vegetables (1967=100)	101	106	107
Fruits and nuts (1967=100)	135	130	136
Cotton (1967=100)	112	142	195
Tobacco (1967=100)	110	109	98
Oil crops (1967=100)	153	132	171
Cropland used for crops (1967=100)	108	109	110
Crop production per acre (1967=100)	112	111	117

¹Average annual quantities per family and single person households bought by wage and clerical workers, 1960-61, based on Bureau of Labor Statistics figures.

²Annual rate, seasonally adjusted, third quarter.

³Includes minor livestock products not shown in the separate groups below. Cannot be added to gross crop production to compute farm output.

⁴Includes miscellaneous crops not shown in the separate groups below. Cannot be added to gross livestock production to compute farm output.



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DIANE DECKER, EDITOR

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